



FAX Cover Sheet

USEPA - Region 4
61 Forsyth St., SW
Atlanta, Georgia 30303

TO: ~~AL Linn~~
FDEP

FAX #: 850-922-6979

RE: Granite Power Partners II

FAX To: Granite/
Mike Vogt L.S. Power
314/993-2790

& Tom Davis ECT
314/332-6722

FROM: Katy Forney
Air Permits Section, Region 4 USEPA

Phone #: 404-562-9130

Date: 4-12-00

of Pages (including cover): 3

COMMENTS:

Sorry for the Delay, Katy

Mr. Vogt
(Please develop responses during comment period. We will evaluate EPA's comments later since the Draft is about ready & we already deemed the application as complete)
Al Linn

If this FAX is poorly received, please call Katy Forney: 404-562-9130



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

REGION 4

ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

APR 12 2000

4APT-ARB

A. A. Linero, P.E.
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400SUBJ: PSD Permit Application for Granite Power Partners II
Hardee County Generating Facility located near Wauchula, FL

Dear Mr. Linero:

Thank you for sending the prevention of significant deterioration (PSD) permit application for the Granite Power Partners II - Hardee County Generating Facility dated January 19, 2000. The PSD permit application is for the proposed construction and operation of three simple cycle combustion turbines (CTs) with a total nominal generating capacity of 540 megawatts (MW). One of following four types of turbines is being considered for installation at the Granite Power facility: GE 7FA, Siemens Westinghouse 501F, Siemens Westinghouse 501D5A, and ABB GT-24. The CTs will combust pipeline quality natural gas as the primary fuel and distillate fuel oil as a backup fuel. As proposed, the CTs will be allowed to operate 3,000 hours per year with up to 500 hours per year firing fuel oil. Total emissions from the proposed project are above the thresholds requiring PSD review for nitrogen oxides (NO_x), carbon monoxide (CO), sulfur dioxide (SO₂), volatile organic compounds (VOC) and particulate matter (PM/PM₁₀).

Based on our review of the PSD permit application for Granite Power, we have the following comments:

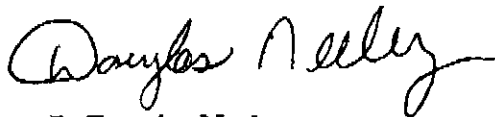
1. The applicant proposed a best available control technology (BACT) NO_x emission limit of 25 ppmvd (15% oxygen) for natural gas firing if the ABB GT-24 turbines are installed. BACT NO_x emission limits for most recent simple cycle projects in Region 4 and elsewhere are well below 25 ppmvd while firing natural gas. Our conclusion is that the NO_x BACT emission rate should be much less than 25 ppmvd regardless of the turbine model selected by the applicant.
2. In Appendix D of the PSD permit application, the formaldehyde emission factor seems to originate from Chapter 1 of AP-42 Supplement D. Chapter 1 discusses external combustion sources, while Chapter 3 discusses stationary internal combustion sources (including CTs) and is more appropriate for estimating emissions from combustion turbines.

2

3. In the economic analyses, the cost of SCR and catalytic oxidation are evaluated based on 3,000 hours of operation per year. This operational limit needs to be included in the draft PSD permit as the maximum number of hours/year a single CT can operate for these analyses to remain valid.
4. The proposed BACT for particulate matter (PM₁₀) is between 10 and 20% opacity for visible emissions (depending on which turbine manufacturer is chosen). This visible emissions opacity limit is proposed as a surrogate for a BACT particulate matter emissions rate limit. It is acceptable to use the 10 - 20% opacity limit as a surrogate for monitoring and recordkeeping; however, the permit conditions should also list the corresponding emission rate for particulate matter (i.e., 9.9 lb/hr for natural gas, 18.7 lb/hr for fuel oil.)

Thank you for the opportunity to comment on the PSD permit application for the Granite Power Partners II facility in Hardee County, FL. If you have any questions regarding these comments, please direct them to either Katy Forney at 404-562-9130 or Jim Little at 404-562-9118.

Sincerely,



R. Douglas Neeley
Chief
Air and Radiation Technology Branch
Air, Pesticides and Toxics
Management Division



Environmental Consulting & Technology, Inc.

RECEIVED

MAR 27 2000

March 24, 2000
ECT No. 990869-0100

SENT BY OVERNIGHT MAIL ON 3/24/00

BUREAU OF AIR REGULATION

Mr. A.A. Linero, P.E.
Administrator, New Source Review Section
Florida Department of Environmental Protection
2600 Blair Stone Road, MS #5505
Tallahassee, Florida 32399-2400

notebook
on shelf

Re: DEP File No. 0490044-001-AC (PSD-FL-281)
Hardee County Generation Facility
Three Simple Cycle Combustion Turbines

Dear Mr. Linero:

On behalf of Granite Power Partners II, L.P. and in response to your February 16, 2000 letter, please find enclosed four copies of an analysis of air quality impacts at the Chassahowitzka National Wildlife Refuge for the proposed Hardee County Generation Facility (HCGF).

Your continued expeditious processing of the HCGF project will be appreciated. Please contact me at 352/332-6230, Ext.351, if there are any further questions.

Sincerely,

ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC.

Thomas W. Davis, P.E.
Principal Engineer

HARDEE County
Generation Facility
0490044-001-AC
PSD-FL-281

Enclosures

cc: Mr. Michael F. Vogt, GPP

3 simple cycle
Combustion Turbines
3/24/00

3701 Northwest
98th Street
Gainesville, FL
32606

(352)
332-0444

FAX (352)
332-6722

ECT 990869-0100





Jeb Bush
Governor

Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

David B. Struhs
Secretary

February 16, 2000

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Michael F. Vogt, Project Manager
Granite Power Partners II, LP
655 Craig Road, Suite 336
St. Louis, Missouri 63025

Re: DEP File No. 0490044-001-AC (PSD-FL-281)
Three Simple Cycle Combustion Turbines, Hardee County
Receipt of Application

Dear Mr. Vogt:

On January 20, 2000, the Department advised you that the referenced application is incomplete. It is still incomplete. We requested certain specific information regarding the performance characteristics of the ABB and Siemens-Westinghouse units under consideration for this project. We believed we had sufficient information regarding the General Electric product.

The following modeling requirements are also needed to process this application. These were discussed with Mr. Tom Davis on February 4. Granite needs to conduct regional haze, increment, and deposition analyses, utilizing the CALPUFF dispersion model, to determine impacts at the Chassahowitzka NWR. These analyses should follow the guidelines recommended in the EPA document entitled, Interagency Workgroup on Air Quality Modeling (IWAQM) Phase 2 Summary and Recommendation for Modeling Long Range Transport Impacts.

Once we receive these analyses from you, we intend to process the application with whatever combustion turbine information we have at that time. If we issue an Intent with a draft permit and a draft Best Available Control Technology determination based on the information we have, you will still have an opportunity to comment and provide additional details should you disagree with our determination. Please advise if you disagree with this approach.

Attached is the communication we received from the Fish and Wildlife Service. They may provide a more detailed review. We will forward it to you when received.

The meteorologist reviewing the modeling is Chris Carlson. He can be reached at 850/921-9537. If you have any other questions regarding this matter, please call me at 850/921-9523.

Sincerely

A. A. Linero, P.E. Administrator
New Source Review Section

CC: Gregg Worley, EPA
John Bunyak, NPS
Bill Thomas, DEP SWD
Tom Davis, ECT

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Z 031 391 865

US Postal Service

Receipt for Certified Mail

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Sent to	
Michael Vogt	
Street & Number	
Granite Power A	
Post Office, State & ZIP Code	
St. Louis, MO	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	
2-17-00	
0490044-001-AC	
PSD-F1-281	

PS Form 3800, April 1995

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3. Article Addressed to:

Mr. Michael Vogt, P. Mgr.
Granite Power Partners
655 Craig Rd, Ste 336
St. Louis, MO 63025

4a. Article Number

Z 031-391 865

4b. Service Type

Registered Certified

Express Mail Insured

Return Receipt for Merchandise COD

7. Date of Delivery

2-22-00

5. Received By: (Print Name)

Crystal Abernathy

6. Signature: (Addressee or Agent)

X Crystal Abernathy

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Jeb Bush
Governor

Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

David B. Struhs
Secretary

January 20, 2000

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Michael F. Vogt, Project Manager
Granite Power Partners II, LP
655 Craig Road, Suite 336
St. Louis, Missouri 63025

Re: DEP File No. 0490044-001-AC (PSD-FL-281)
Three Simple Cycle Combustion Turbines, Hardee County
Receipt of Application

Dear Mr. Vogt:

On January 18, 2000, the Department received your application with sufficient fee for an air construction permit for three simple cycle combustion turbines to be located in Hardee County, Florida. We are reviewing the application for completeness and forwarded copies to EPA Region IV in Atlanta, the Fish and Wildlife Service Air Quality Branch, and our District office in Tampa for comments. We will provide you with a request for additional information (if such is needed) by February 16.

We have identified some key issues that will need to be resolved prior to issuance of a permit. The main one is that we do not have sufficient information in the application (or in our files) regarding the performance of the ABB and Siemens Westinghouse combustion turbines to establish reasonable assurance consistent with Rule 62-4.070, F.A.C., Standards for Issuing or Denying Permit. The vendor information in the application for these products appears to be from combined cycle applications. If they are also applicable to simple cycle units, please note that they suggest that values as low as 9 ppmvd of NO_x are possible with the ABB product and that values between 6 and 9 ppmvd are available from Siemens Westinghouse for the 501F product.

Recently EPA Region IV, (who will also review this application) objected to issuance of a joint PSD-Title V permit for the Calvert City Power I Simple Cycle Project in Kentucky. A limit of 25 ppmvd was proposed for NO_x when using the Siemens Westinghouse 501F product. A similar challenge can be expected if this Department were to issue a similar permit with such limits for the ABB product.

It is our understanding that Westinghouse can probably achieve 15 ppmvd NO_x on a unit that burns only gas. Several permit applications have been submitted on that premise (Dynegy in Georgia and in Florida). However we still lack reasonable assurance that this is possible within the time frame suggested by your application. We will need to discuss this matter with your consultant and manufacturer's representatives.

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Printed on recycled paper.

Michael F. Vogt
January 20, 2000
Page 2

It is possible that hot SCR will be required for the Siemens Westinghouse or ABB options. If the gas temperatures are considered to be too high (even for hot SCR), a design will need to be developed to reduce the gas temperatures somewhat. Some of the heat removed can probably be used to pre-heat incoming fuel or in some other manner to "recuperate" some energy, thus resulting in greater efficiency.

We look forward to receiving the requested information soon so that processing is not delayed due to incompleteness on these issues. The meteorologist reviewing the modeling is Chris Carlson. He can be reached at 850/921-9537. I am reviewing the technical portions of the application. If you have any questions regarding this matter, please call me at 850/921-9523.

Sincerely



A. A. Linero, P.E. Administrator
New Source Review Section

CC: Gregg Worley, EPA
John Bunyak, NPS
Bill Thomas, DEP SWD

Z 031 391 920

US Postal Service
Receipt for Certified Mail

No Insurance Coverage Provided.

Do not use for International Mail (See reverse)

Sender	
Michael Vost	
Street & Number	
Granite Power Partners	
Post Office, State, & ZIP Code	
St. Louis MO	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	1-20-99
0490044-001-AC	
FSD-FI-281	

PS Form 3800, April 1995

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- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
 Michael Vost, Proj Mgr
 Granite Power Partners
 655 Craig Rd - Suite 336
 St. Louis, MO
 63025

4a. Article Number
Z031 391 920

4b. Service Type
 Registered Certified
 Express Mail Insured
 Return Receipt for Merchandise COD

7. Date of Delivery
1-24-00

5. Received By: (Print Name)
Dennis Charbon

8. Addressee's Address (Only if requested and fee is paid)

6. Signature: (Addressee or Agent)
X

Thank you for using Return Receipt Service.



LS POWER, LLC

655 Craig Road, Suite 336
St. Louis, Missouri 63141
(314) 993-2700 • Fax: (314) 993-2790

Michael F. Vogt
Project Manager

RECEIVED

JAN 18 2000

BUREAU OF AIR REGULATION

January 13, 2000

Mr. A. A. Linero, P.E.
Administrator, New Source Review Section
Division of Air Resources Management
Florida Department of Environmental Protection
2600 Blair Stone Road, MS # 5505
Tallahassee, Florida 32399-2400

Re: Hardee County Generating Facility
Simple-Cycle Combustion Turbine Power Project
Air Construction Permit Application

0490044-001-AC
PSD-FI-281

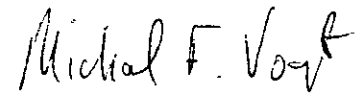
Dear Mr. Linero:

Granite Power Partners II, L.P. (GPP) is planning to construct and operate three simple-cycle combustion turbine generators (CTGs) at a site located in Hardee County, Florida. The proposed power plant, called the Hardee County Generation Facility (HCGF), will be situated approximately 5 miles west of Wachula near the intersection of Vandolah Road and Fort Green Ona Road, adjacent to the existing Vandoalah Substation. Selection of the particular CTGs that will be installed at the HCGF has not been finalized. The specific CTGs under consideration, and for which permit approval is requested, include nominal 170-megawatt (MW) General Electric 7FA units, nominal 170-MW Siemens Westinghouse 501F units, nominal 120-MW Siemens Westinghouse 501D5A units, and nominal 180-MW ABB Power Generation GT 24 units. The HCGF simple-cycle CTGs will be fired primarily with pipeline quality natural gas. Low-sulfur distillate fuel oil will serve as a back-up fuel source.

Four copies of an Application for Air Permit – Title V Source, together with a check in the amount of \$7,500 as payment of the required permit processing fee, are enclosed. Your expeditions processing of the Hardee County Generation Facility air permit application will be appreciated.

Should you have any questions, please do not hesitate to contact me at (314) 993-2700

Sincerely,



Michael F. Vogt

Enclosures

cc: NPS
EPA
SWD

1894

GRANITE POWER PARTNERS II LP

TWO TOWER CENTER, 20TH FLOOR
EAST BRUNSWICK, NJ 08816

PNC BANK, N.A.
NEW JERSEY 060
55-760-312

Jan 6, 2000

*****\$7,500.00*

Memo:

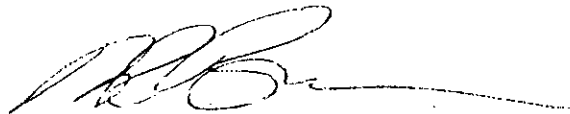
PAY Seven Thousand Five Hundred and 0/100 Dollars

FLORIDA DEP

DATE

AMOUNT

TO THE
ORDER
OF:



⑈001894⑈ ⑆031207607⑆ 8007202664⑈

36931105-77

Security features included. Details on back.

GRANITE POWER PARTNERS II LP

FLORIDA DEP

1894

Check Number: 1894

Check Date: Jan 6, 2000

Check Amount: \$7,500.00

Discount Taken Amount Paid

Item to be Paid - Description
PSD Air
Permit

7,500.00



Department of Environmental Protection

Jeb Bush
Governor

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

David B. Struhs
Secretary

January 19, 2000

Mr. John Bunyak, Chief
Policy, Planning & Permit Review Branch
NPS-Air Quality Division
Post Office Box 25287
Denver, CO 80225

Re: Granite Power Partners II
Hardee County Generating Facility - Simple Cycle Project
DEP File No. 0490044-001-AC (PSD-FL-281)

Dear Mr. Bunyak:

Enclosed for your review and comment is an application for the proposed Granite Power Partners II (GPP) facility in Hardee County. This facility will be comprised of three simple cycle combustion turbines generating up to 540 nominal megawatts. The project also includes a 1.5 million gallon fuel oil storage tank and ancillary equipment. GPP proposes 3,000 hours of operation per unit and requests up to 500 hours of 0.05 percent sulfur No. 2 distillate fuel oil use per unit within the 3,000 hours. GPP requests a permit allowing them to use one of four possible equipment manufacturers.

The site is approximately 138 kilometers southeast of the Chassahowitzka National Wildlife Area. The applicant proposes NO_x emissions at between 10.5 and 25 ppmvd (depending on manufacturer) on natural gas and 42 ppmvd on fuel oil. Maximum annual emissions are presented below and are based on the combustion turbine supplier with the highest emission characteristics.

Pollutant	Proposed Facility Emissions (tons per year)
NO _x	950
SO ₂	108
CO	518
PM/PM ₁₀	126
VOC	74
Sulfuric Acid Mist	14

We would especially appreciate receiving your comments during the application review period rather than during the review of the draft permit. Your comments can be forwarded to my attention at the letterhead address or faxed to me at (850) 922-6979. If you have any questions, please contact me at (850) 921-9523.

Sincerely,

A. A. Linero, P.E., Administrator
New Source Review Section

AAL/kt

Enclosure

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Department of Environmental Protection

Jeb Bush
Governor

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

David B. Struhs
Secretary

January 19, 2000

Mr. Gregg Worley, Chief
Air, Radiation Technology Branch
Preconstruction/HAP Section
U.S. EPA - Region IV
61 Forsyth Street
Atlanta, Georgia 30303

Re: Granite Power Partners II
Hardee County Generating Facility - Simple Cycle Project
DEP File No. 0490044-001-AC (PSD-FL-281)

Dear Mr. Worley:

Enclosed for your review and comment is an application for the proposed Granite Power Partners II (GPP) facility in Hardee County. This facility will be comprised of three simple cycle combustion turbines generating up to 540 nominal megawatts. The project also includes a 1.5 million gallon fuel oil storage tank and ancillary equipment. GPP proposes 3,000 hours of operation per unit and requests up to 500 hours of 0.05 percent sulfur No. 2 distillate fuel oil use per unit within the 3,000 hours. GPP requests a permit allowing them to use one of four possible equipment manufacturers.

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CO	518
PM/PM ₁₀	126
VOC	74
Sulfuric Acid Mist	14

We would especially appreciate receiving your comments during the application review period rather than during the review of the draft permit. Your comments can be forwarded to my attention at the letterhead address or faxed to me at (850) 922-6979. If you have any questions, please contact me at (850) 921-9523.

Sincerely,

A. A. Linero, P.E., Administrator
New Source Review Section

AAL/kt

Enclosure

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